- Box Delete Model No Longer Available for 2021MY
- New Tremor Package added to 2021MY Ranger lineup
- New wheels and tire for 2021 MY added to Wheel and Tire Data
- Added content for Radar and Camera keep out zones

INDEX

RANGER	Page
WHAT'S NEW	1
INDEX	2
INTRODUCTION	3
MODEL LINEUP	4
DIMENSIONAL DATA	
SUPER CAB / CREW CAB	5-6
PICKUP BOX	7
SUPER CAB BOX REMOVAL	8-9
AXLE / TIRE / VEHICLE HEIGHT DATA	10
SUPER CAB BOX REMOVAL FUEL FILLER PIPE INSTALLATION	11
CHASSIS CAB / PICKUP BOX REMOVAL FRAME DATA	12
WHEEL & TIRE DATA	13
FRONT SURFACE AREA WORKSHEET	14
SEAT TRACK & H-POINT DATA	15
ELECTRICAL WIRING	
CHMSL CIRCUIT	16
BOX REMOVAL TAIL LAMPS	17
BOX AND TAILGATE REMOVAL - POWER LOCKS	18
BOX AND TAILGATE REMOVAL REAR VIEW CAMERA	19
REAR VIEW CAMERA PLACEMENT FOR BOX REMOVAL	20
WIRING PASS THROUGH LOCATIONS	21
ADDED CIRCUITS	22
ADDED CIRCUITS, CON'T	23
RANGER ELECTRICAL ADAS FEATURES CAMERA AND RADAR KEEP OUT ZONES	24
REVISION TABLE	25

WARNING:

During the production and servicing of these vehicles, due care should be taken to avoid damaging of safety or emissions related systems such as the braking system, fuel lines, sensors, catalysts, etc. through contacting them while working on adjacent areas of the vehicle. Inadvertent damage can also occur due to adjacent welding/cutting operations, people standing near/on unprotected systems while performing other tasks.

Important Notices

The information described herein is believed to be correct at the time of publication, but accuracy cannot be guaranteed. Ford reserves the right to discontinue models or change specifications or designs at any time without notice and without incurring any obligation.

Representations regarding the compliance of any Ford-manufactured incomplete vehicle to any rule, regulation or standard issued pursuant to the National Traffic and Motor Vehicle Safety Act or the Canadian Motor Vehicle Safety Act are set forth only in the Incomplete Vehicle Manual (IVM) which accompanies each incomplete vehicle.

Regulations such as those issued by the Federal Highway Administration (FHA) or issued pursuant to the Occupational Safety and Health Act (OSHA), and/or state, provincial, and local laws and regulations may require installation of additional equipment for the particular use intended for the vehicle. It is the responsibility of the subsequent stage manufacturer or completed vehicle alterer and the vehicle purchaser to ascertain how the vehicle will ultimately be used, if FHA, OSHA or state provincial or local regulations apply and how the vehicle as completed will comply with those requirements. Nothing contained herein is to be construed as a representation that such equipment required for the particular use intended has been installed on the completed or incomplete vehicle.

Reference Information

Ford Body Builder Advisory Service Publications

This document is an example of a program-specific Body Builders Layout Book (BBLB) published by the Ford Body Builder Advisory Service (BBAS) team. Each Ford Commercial Truck vehicle line has a similar document that aims to provide detailed information which may be of interest to a subsequent-stage manufacturer or alterer.

The Ford Transit and Transit Connect also have a Body and Equipment Mounting Manual (BEMM), which is a comprehensive resource dedicated to body and equipment mounting information.

Yet another source of program-specific information are the “Vehicle Specification” documents available on the Ford BBAS website. Information typically found in these documents are: vehicle curb and accessory weights, vehicle dimensions, component descriptions, capacities, GAWRs, alternator output, powertrain output and gear ratios.

In addition to the program-specific documents, there are several Ford BBLB documents that contain general best practices or information on specific subjects that span multiple vehicle lines. These include:

- General BBLB - contains Definitions, Design Recommendations and Vehicle Storage Guidelines.
- Snow Plow BBLB
- Pickup Box Removal BBLB

These publications are updated every model year and can be accessed via the web at https://fordbbas.com under “Publications”. For BBLB and BEMM documents, expand the “Body Builder Layout Book” Section to view all available documents. For Vehicle Specifications, expand the “Vehicle Specifications” section. The website search function can be used to filter for specific content or vehicle line.

Ford Body Builder Advisory Service Bulletins

Occasionally, the Ford BBAS team will create an SVE “Bulletin” to address a specific issue or distribute important information in a timely manner. These documents can be accessed via the web at https://fordbbas.com under “Bulletins”. The website search function can be used to filter for specific content or vehicle line.

If applicable, information from each SVE bulletin will be incorporated into the appropriate BBLB document the following model year. In some cases, SVE bulletins will continue to be referenced in this document.

Ford Body Builder Advisory Service Contact

The Ford Truck Body Builder Advisory Service may be consulted if questions regarding the completion of Ford commercial vehicles are not adequately addressed in the documentation described above. For assistance call (877) 840-4338 or e-mail via the web at https://fordbbas.com under “Contact Us” and select “General Questions”.

For Ford vehicle CAD requests, please visit https://fordbbas.com, select “Contact Us” and then “CAD Request”.

For both Questions and CAD Requests, please be as specific as possible with the request details to assure the most accurate and timely response.

Ford Service Publications

Ford Service Technical Resources (including wiring diagrams, repair manuals and diagnostic tool support) are available by subscription via the Motorcraft website: www.motorcraftservice.com

The following publications are examples of digital and printed manuals which are available from Helm Incorporated; call 1-800-782-4356 or contact Helm, Inc. at their website www.helminc.com:

- Ford Truck Shop Manuals
- Ford Towing Manuals
- Ford Wiring Diagrams

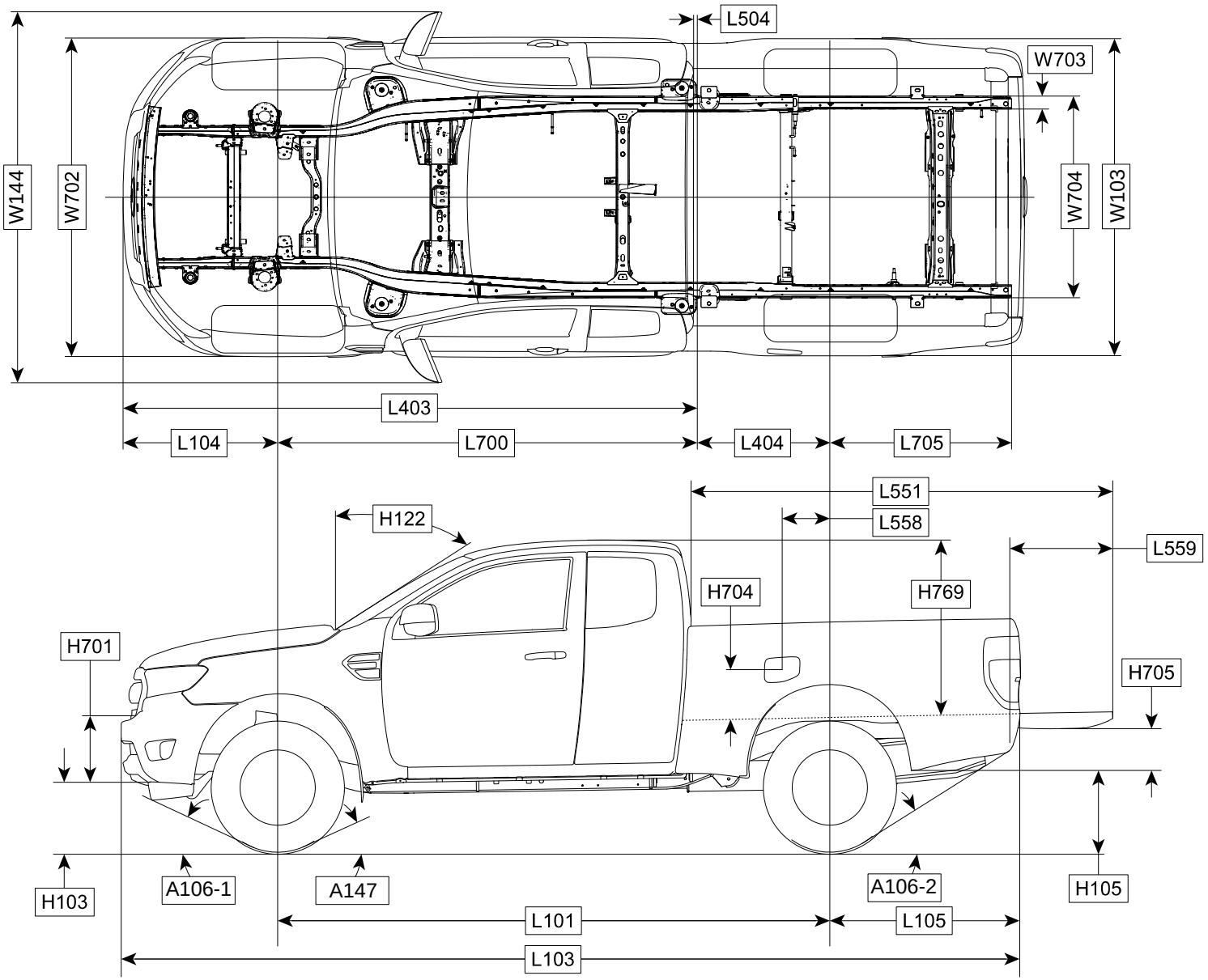
RANGER
MODEL LINEUP
SUPER CAB / CREW CAB

Cab Style/ Drive	Engine	Max. GVWR (lbs.)	Max. Payload (lbs.) (1)	Max. ARC Weight (lbs.) (2)	Max. GAWR (lbs.) (3)		Base Curb Weight (lbs.) (4)		
					Front	Rear	Front	Rear	Total
SuperCab 4x2	2.3L EcoBoost	6050	1860	1117	2885	3500	2368	1777	4145
SuperCab 4x4	2.3L EcoBoost	6050	1650	908	3108	3370	2544	1810	4354
CrewCab 4x2	2.3L EcoBoost	6050	1770	1068	2930	3500	2377	1855	4232
CrewCab 4x4	2.3L EcoBoost	6050	1560	859	3130	3370	2554	1887	4441

Notes:

(1) Load rating represents maximum allowable weight of people,cargo and body equipment and is reduced by optional equipment weight.
(2) ARC Weight is the maximum allowable weight of regular production options and aftermarket equipment (Accessory Reserve Capacity) above standard equipment for each configuration. Please also refer to footnote 5.
(3) Gross Axle Weight Rating is determined by the rated capacity of the minimum component of the axle system (axle, springs,wheels, tires) of a specific vehicle. Front and rear GAWRs will, in all cases, sum to a number equal to or greater than the GVWR for the particular vehicle.
Maximum loaded vehicle (including passengers,equipment and payload) cannot exceed the GVW rating or GAWR (front or rear).
(4) Base Curb Weights shown above are for truck models with standard equipment. Please also refer to footnote 3.

RANGER
DIMENSIONAL DATA
SUPER CAB / CREW CAB



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RANGER
DIMENSIONAL DATA
SUPER CAB / CREW CAB (Cont'd)

CHASSIS

CODE	DESCRIPTION	Super Cab		Super Cab Tremor	Crew Cab	
		4x2	4x4	4x4	4x2	4x4
H103	BOTTOM OF FRONT BUMPER VALANCE TO GROUND @ CURB (BASE TIRE)	293.9 [11.57]	295.1 [11.62]	440.4 [17.3]	293.7 [11.56]	294.9 [11.61]
H105	BOTTOM OF REAR BUMPER VALANCE TO GROUND @ CURB (BASE TIRE)	502.2 [19.77]	519.4 [20.45]	560.5 [22.1]	501.1 [19.73]	518.3 [20.41]
A106-1	APPROACH ANGLE @ CURB (DEGREES)	27.9	28.7	30.9	27.9	28.7
A106-2	DEPARTURE ANGLE @ CURB (DEGREES) (TAKEN AT BOTTOM OF BUMPER)	25.2	25.4	27.1	25.2	25.4
A147	RAMP BREAKOVER ANGLE @ CURB (DEGREES)	22.7	21.5	24.3	22.7	21.5
L101	WHEELBASE	3220 [126.8]				
L103	VEHICLE LENGTH	5355 [210.8]				
L104	FRONT OVERHANG (NO LICENSE PLATE BRACKET)	910 [35.8]				
L105	REAR OVERHANG	1225 [48.2]				
L403	FRONT OF BUMPER TO BACK OF CAB	3335 [131.30]			3635 [143.11]	
L404	CAB TO ℄ OF REAR AXLE	795 [31.30]			495 [19.49]	
L700	℄ OF FRONT AXLE TO BACK OF CAB	2425 [95.47]			2725 [107.28]	
L705	℄ OF REAR AXLE TO REAR END OF FRAME	1046 [41.18]				
W703	FRAME RAIL WIDTH	83.2 [3.28]				
W704	REAR FRAME WIDTH	1184.2 [46.62]				

CAB

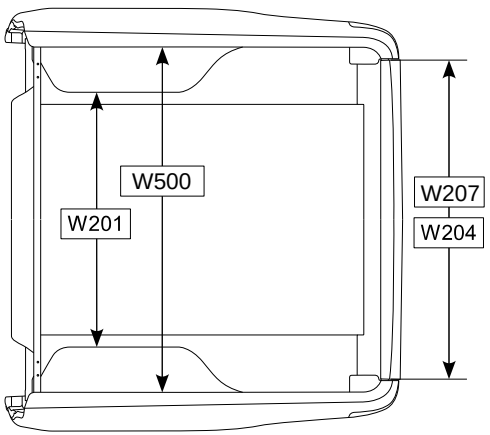
CODE	DESCRIPTION	Super Cab	Crew Cab	Super Cab Tremor
H122	WINDSHIELD ANGLE (DEGREES)	57		
H701	FRONT BUMPER HEIGHT W/ VALENCES	464 [18.27]		
W103	VEHICLE BODY WIDTH (MAX W/O MIRRORS)	1861 [73.3]		1884.6 [74.2]
W144	VEHICLE WIDTH (MAX W/ STANDARD MIRRORS)	2179 [85.8]		
W702	FRONT BUMPER WIDTH	1827 [71.93]		1881.8 [74.1]

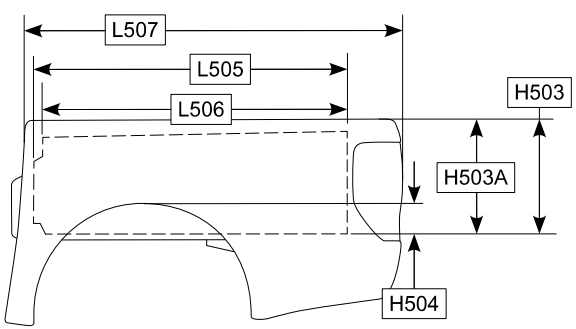
PICKUP BODY

CODE	DESCRIPTION	Super Cab	Crew Cab
NOMINAL CARGO BODY SIZE		6.0 FT	5.0 FT
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO CL OF FUEL FILLER DOOR	257 [10.12]	
H705	REAR BUMPER HEIGHT WITH TAILGATE CLOSED	266 [10.47]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ ℄ OF REAR AXLE	1017 [40.04]	
L504	CAB TO PICKUP BOX	16.6 [0.65]	
L551	BOX OVERALL LENGTH TO OPEN TAILGATE (MINIMUM)	2468 [97.17]	2168 [85.35]
L558	℄ OF REAR AXLE TO ℄ OF FUEL FILLER DOOR	267 [10.51]	
L559	LENGTH OF OPEN TAILGATE FRONT END OF BOX FLOOR SAME AS F150	626 [24.65]	

NOTES — [ ] DIMENSIONS ARE INCHES.

RANGER
DIMENSIONAL DATA
PICKUP BOX

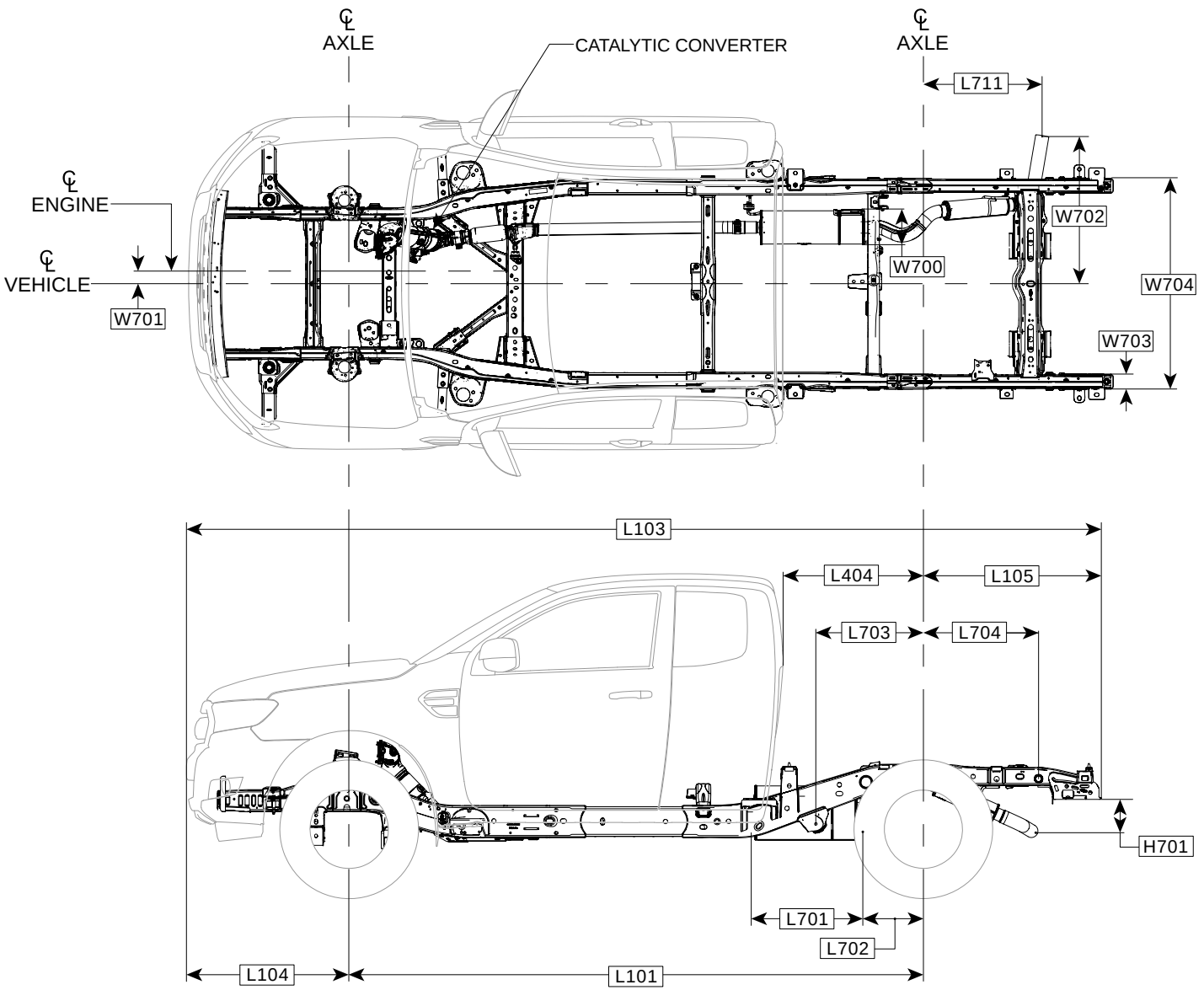




CODE	DESCRIPTION	Super Cab 6ft Box	Crew Cab 5ft Box
H503	CARGO BODY HEIGHT W/ MOLDING	529 [20.8]	531 [20.9]
H503A	CARGO BODY HEIGHT WITHOUT MOLDING @ CL OF REAR AXLE	522 [20.55]	524 [20.63]
H504	WHEELHOUSE HEIGHT WITH MOLDING	139 [5.47]	139 [5.47]
L505	CARGO BODY LENGTH @ FLOOR	1848 [72.8]	1550 [61.0]
L506	CARGO BODY LENGTH @ TOP (BELT)	1777 [70.0]	1479 [58.2]
L507	CARGO BODY OVERALL LENGTH (INCLUDES TAILGATE HANDLE BEZEL & BADGE)	1985 [78.15]	1685 [66.34]
W201	CARGO WIDTH AT WHEELHOUSE	1138 [44.8]	1138 [44.8]
W204	REAR OPENING WIDTH @ TOP (BELT)	1410 [55.5]	1410 [55.5]
W207	REAR OPENING WIDTH AT FLOOR	1408 [55.4]	1408 [55.4]
W500	EXPOSED CARGO WIDTH	1560 [61.4]	1560 [61.4]
V5	CARGO VOLUME - LITERS [C U.FT.]	1466 [51.8]	1225 [43.3]

NOTES — [ ] DIMENSIONS ARE INCHES.

RANGER
DIMENSIONAL DATA
SUPERCAB BOX REMOVAL



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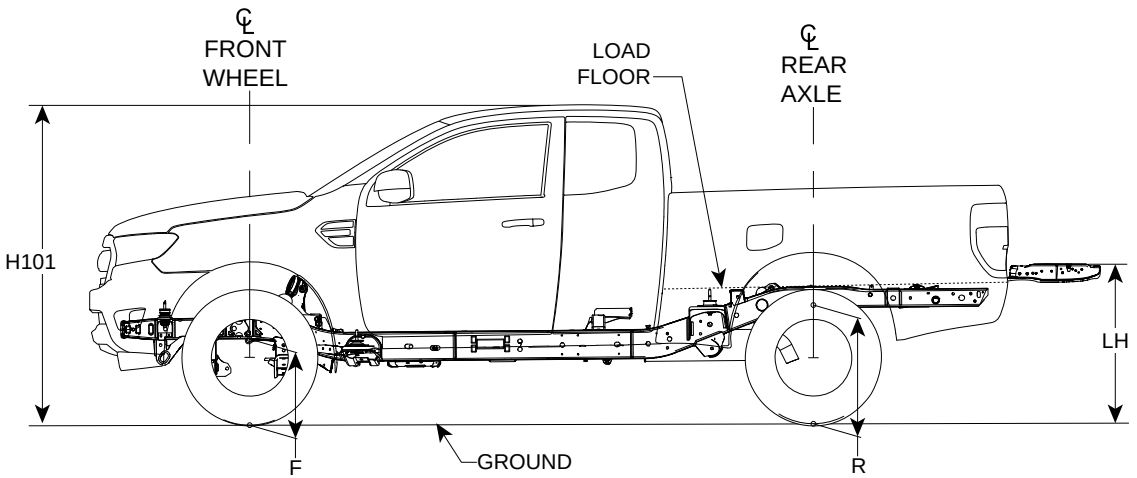
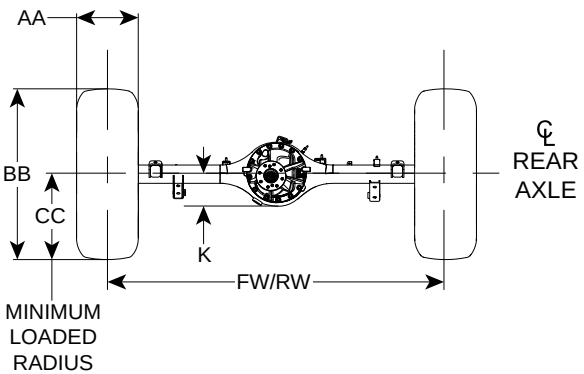
RANGER
DIMENSIONAL DATA
SUPERCAB BOX REMOVAL (Cont'd)

CODE	DESCRIPTION	SUPER CAB
		4x2
H701	C/L OF OUTLET PIPE TO BOTTOM OF FRAME	262 [10.31]
L101	WHEELBASE	3220 [126.8]
L103	OVERALL LENGTH	5355 [210.83]
L104	FRONT OVERHANG	910 [35.8]
L105	REAR OVERHANG (TO REAR OF HITCH RECEIVER BRACKETS)	1144.4 [45.05]
L404	BACK OF CAB TO C/L OF REAR AXLE	794.6 [31.28]
L701	MUFFLER LENGTH	583 [22.95]
L702	MUFFLER REAR TO C/L REAR AXLE	356.3 [14.03]
L703	REAR SPRING FRONT EYE TO C/L REAR AXLE	590 [23.23]
L704	C/L REAR AXLE TO C/L REAR SPRING SHACKLE BRACKET	719 [28.31]
L711	C/L OF REAR AXLE TO C/L OF EXHAUST PIPE	645.6 [25.42]
W700	MUFFLER CROSS SECTION	274.9 [10.82]
W701	DISTANCE BETWEEN C/L ENGINE / VEHICLE	0
W702	END OF TAILPIPE TO C/L VEHICLE FROM OUTLET PIPE END TIP	833 [32.80]
W703	FRAME RAIL WIDTH	83.2 [3.28]
W704	REAR FRAME RAIL WIDTH	1184.2 [46.62]

NOTES — [ ] DIMENSIONS ARE INCHES.

RANGER
AXLE / TIRE / VEHICLE HEIGHT DATA
SUPER CAB / CREW CAB





Model	WB inches	GVWR pounds	Base Tire	F Height @ Front Wheel to Bottom of Frame (1)(2) mm [in]		R Height @ Rear Wheel to Bottom of Frame (1)(2) mm [in]		LH (1)(2) mm [in]		H101 (1)(2) mm [in]		K mm [in]	AA mm [in]	BB mm [in]	CC mm [in]	W102-1 FW mm [in]	W102-2 RW mm [in]
				Height @ Base Curb Weight	Loaded Height @ Spring Rating	Height @ Base Curb Weight	Loaded Height @ Spring Rating	Empty	Loaded	Empty	Loaded						
Super Cab 4X2	126.8	6050	255/65R17	435.8 [17.15]	410.7 [16.16]	626.5 [24.66]	530.2 [20.87]	840.2 [33.07]	707.5 [27.85]	1797 [70.74]	1731 [68.14]	138.7 [5.46]	265 [10.43]	730 [28.74]	348.7 [13.72]	1560 [61.41]	1560 [61.41]
Super Cab 4X4	126.8	6050	255/65R17	438.9 [17.27]	413.6 [16.28]	639.9 [25.19]	545.9 [21.49]	858.9 [33.81]	729.7 [28.72]	1807 [71.14]	1742 [68.58]	138.7 [5.46]	265 [10.43]	732 [28.81]	350.4 [13.79]	1560 [61.41]	1560 [61.41]
Tremor Super Cab 4X2	126.8	6050	265/70R17	486.1 [19.14]	461.0 [18.11]	680.5 [26.79]	583.2 [22.96]	900.4 [35.45]	773.8 [30.46]	1860 [72.86]	1789 [70.43]	138.7 [5.46]	272 [10.71]	772.6 [30.42]	369.1 [14.53]	1584.2 [62.37]	1586 [62.44]
Crew Cab 4X2	126.8	6050	255/65R17	435.4 [17.14]	410.6 [16.16]	625.6 [24.62]	529.4 [20.84]	839.0 [33.03]	706.4 [27.81]	1806 [71.10]	1737 [68.38]	138.7 [5.46]	265 [10.43]	730 [28.74]	347.9 [13.69]	1560 [61.41]	1560 [61.41]
Crew Cab 4X4	126.8	6050	255/65R17	438.5 [17.26]	413.5 [16.27]	639.0 [25.15]	545.1 [21.46]	857.7 [33.76]	728.6 [28.68]	1816 [71.49]	1748 [68.81]	138.7 [5.46]	265 [10.43]	731 [28.77]	349.6 [13.76]	1560 [61.41]	1560 [61.41]

(1) The Height Data shown represents dimensions of a base/standard vehicle with no options. Actual height may vary due to production tolerances.

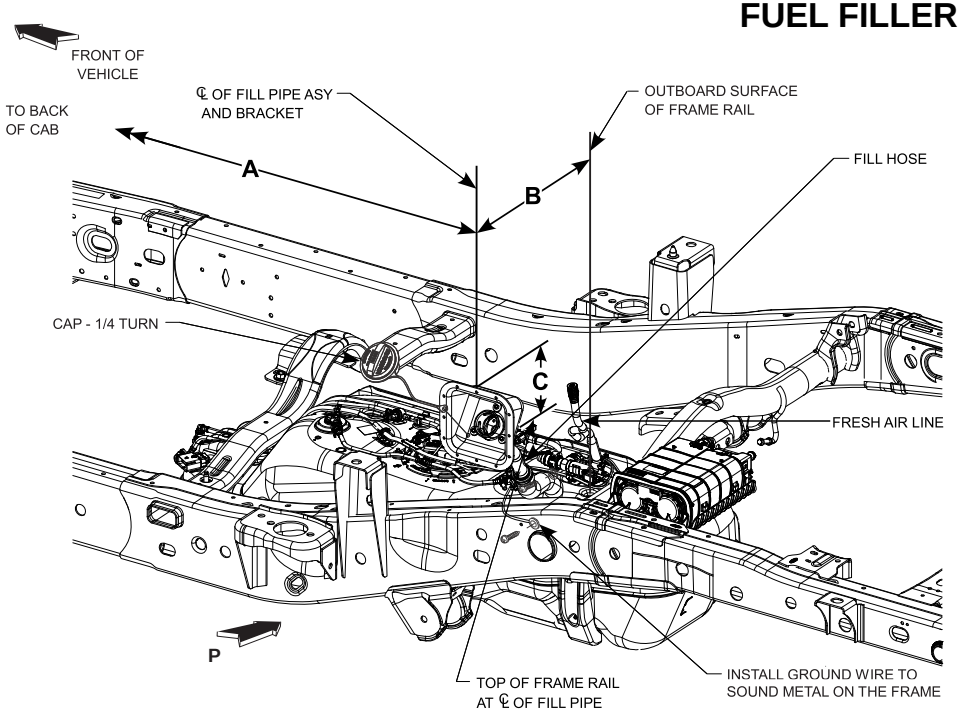
(2) Vehicle ride heights are given at tire minimum loaded radius.

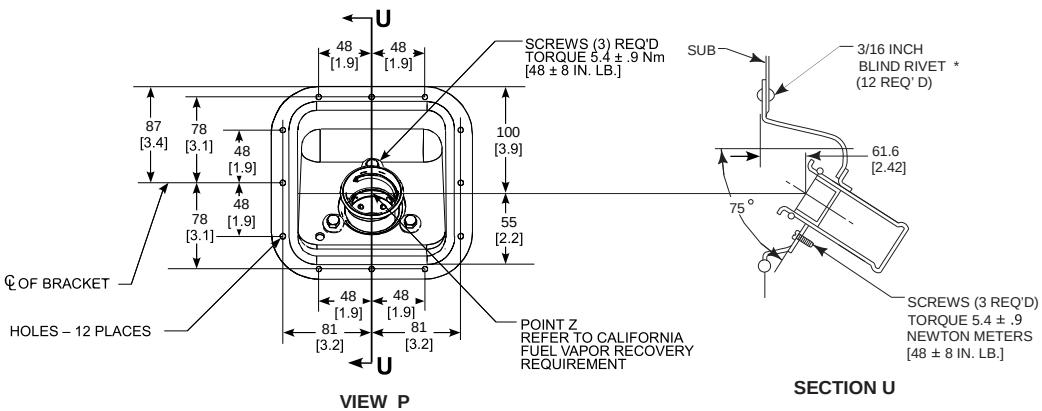
(Cont'd next page)

11
RANGER

RANGER
SUPER CAB BOX REMOVAL
FUEL FILLER PIPE INSTALLATION

2021
MODEL YEAR





Important

Fuel fill hose as standard will suit a mounting position 40" from vehicle centerline (for 80″ wide Second Unit Body). Fill hose has a paint mark on it which indicates where the hose should be cut for mounting 36″ from vehicle centerline (for 72″ wide SUB).

The fuel hose is formed and cannot be changed.

The fresh air line tube end must be above fuel filler, ▽C min 11".

Install ground wire to sound metal on the frame.

The fuel evaporative emission control equipment is certified to be in compliance with the Federal and California Vehicle Emission Standards, any alterations to systems or components and their location could void compliance. System includes but not limited to:
*Fuel tank, Fuel filler, Metering Unit, Lines including purge control solenoids & Canister

NO ALTERATION OF THE FUEL SYSTEM IS RECOMMENDED.

MODEL	WHEELBASE	
SUPER CAB	3220 [126.8]	
FUEL FILLER CUP LOCATION		
▽A	MIN	280 [11.0]
	MAX	330 [13.0]
▽B	MIN	327 [12.9]
	MAX	429 [16.9]
▽C	MIN	267 [10.5]
	MAX	392 [11.5]
FRESH AIR LINE		
▽C	MIN	280 [11.0]

NOTES:

▽ TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 4.8 ± 8 NEWTON METERS [43 ± 7 IN. LB.]

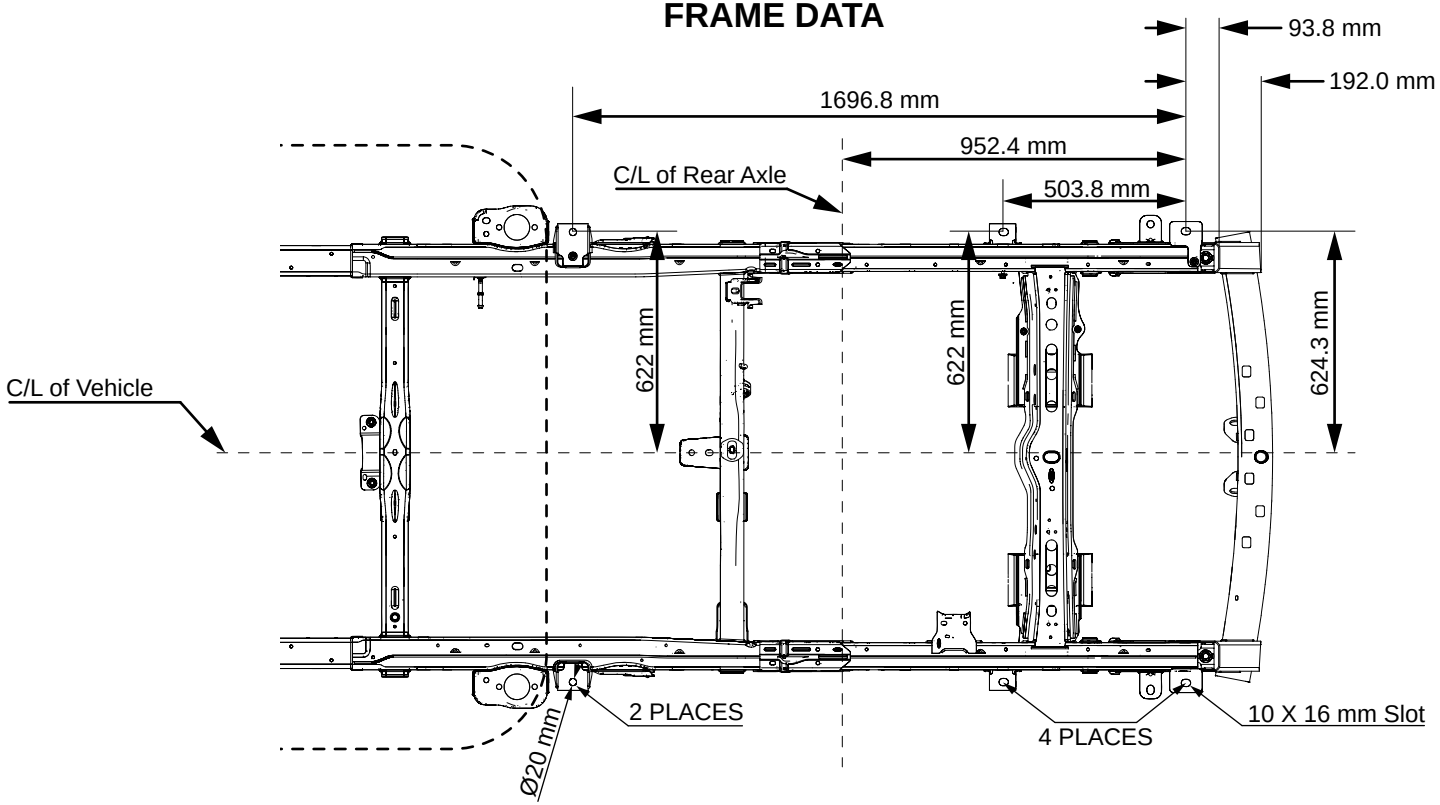
[ ] DIMENSIONS ARE INCHES

* NOT SUPPLIED BY FORD MOTOR COMPANY

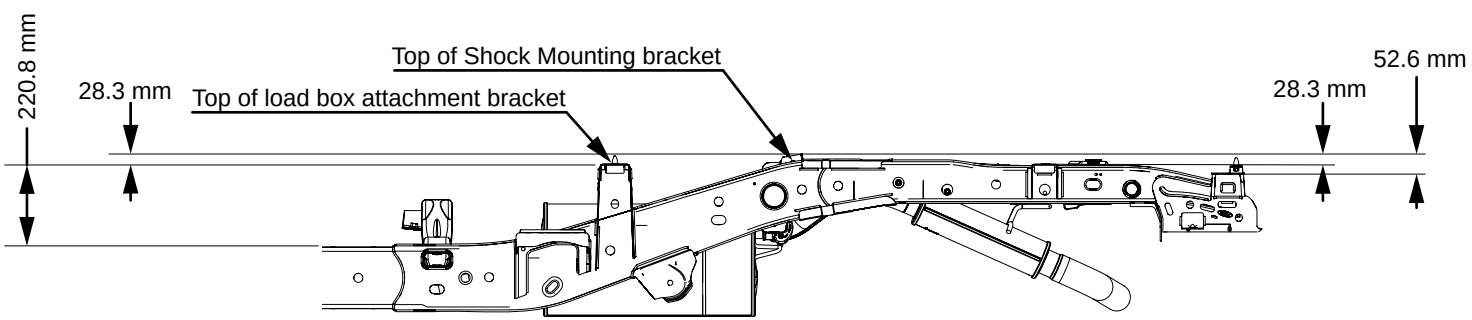
▽ CRITICAL CONTROL ITEM

Use the scuff guards, tie wraps, and clamps provided in the dunnage kit. Do not extend the fue fill system outboard of the second unit body.

RANGER
PICKUP BOX REMOVAL
FRAME DATA



PICKUP BOX HOLES
SYMMETRICALLY OPPOSITE



RANGER
WHEEL & TIRE DATA

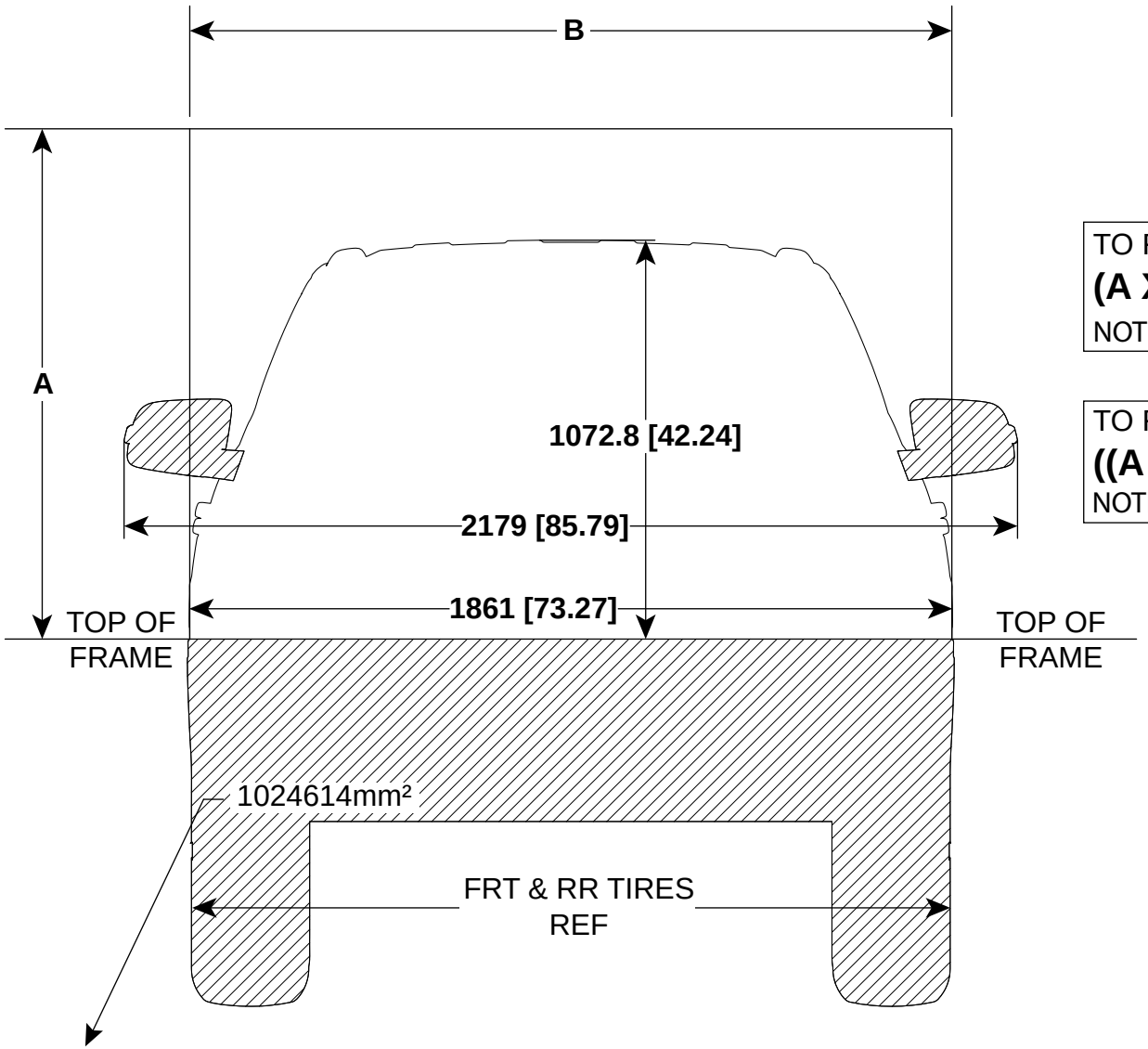
Tire Specifications

Size	Rim Width (in.)	Section Width (in.)	Static Loaded Radius (in.)
255/70R16 BSW all-season	7	10.04	13.50
255/65R17 A/S BSW	8	10.44	14.61
255/65R17 A/T BSW	8	10.44	14.61
265/65R17 A/T OWL	8	10.71	13.94
265/60R18 A/T BSW	8	10.71	14.02
265/60R18 A/T OWL	8	10.71	14.02
LT265/65R17 A/T OWL	8	10.71	13.94
LT265/70R17 A/T BSW	8	10.67	14.63
265/60R18 A/S BSW	8	10.71	14.02
255/70R16 (spare) A/S BSW	6.5	9.83	13.50
265/65R17 (spare) A/T OWL	7.5	10.51	13.94
LT265/70R17 (spare) A/T BSW	7.5	10.67	14.63

Wheel Specifications

Wheel Type	Wheel Size (in.)	Wheel Offset (in./mm)	Bolt Circle (in./mm)	No. of Studs	Maximum Wheel Capacity Load Front/Rear (lbs.)
Silver-painted steel (64A)	16 x 7	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Silver-painted aluminum (64Y)	17 x 8	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Magnetic-painted aluminum (64D)	17 x 8	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Magnetic-painted aluminum (64W)	17 x 8	1.65 / 42	5.5 / 139.7	6	3,130 / 3,373
Chrome-like PVD aluminum (64P)	17 x 8	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Chrome-like PVD aluminum (64F)	18 x 8	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Machined aluminum with Magnetic-painted pockets (64J)	18 x 8	2.16 / 55	5.5 / 139.7	6	3,130 / 3,571
Machined aluminum with Stealth Gray-painted pockets (649)	18 x 8	2.16 / 55	5.5 / 139.7	6	3,263 / 4,079
Black-painted aluminum (76J)	18 x 8	2.16 / 55	5.5 / 139.7	6	3,263 / 4,079

RANGER
FRONT SURFACE AREA WORKSHEET



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
(A X B) + 1719.8 =
NOTE: TREMOR = (A X B) + 1955.5 =

TO FIND FRONT SURFACE AREA IN SQ FEET
((A X B) / 144) + 11.94 =
NOTE: TREMOR = ((A X B) / 144) + 13.58 =

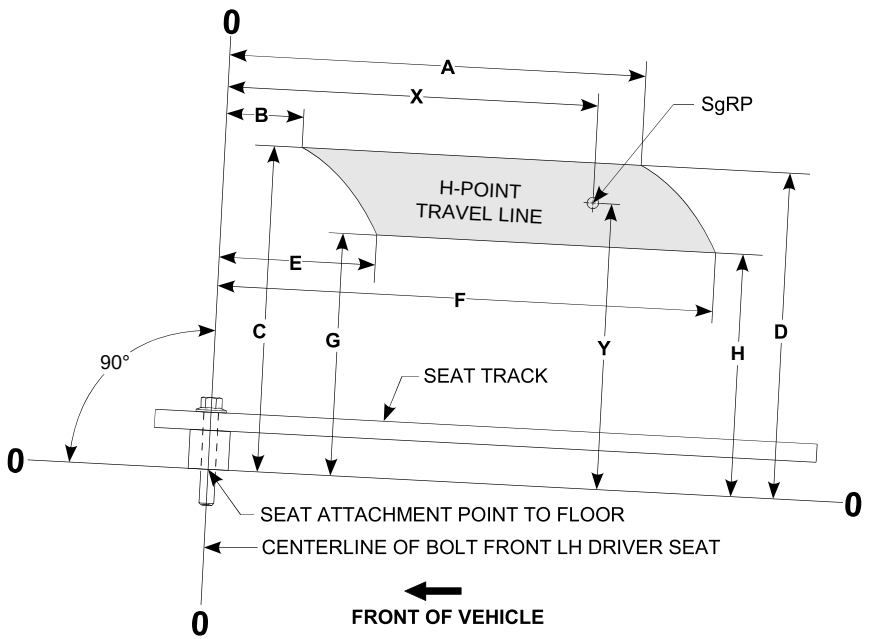
BELOW FRAME SHADED AREA EQUALS
1024614 mm² / (25.4 X 25.4) = 1588.2 SQ.IN.
1588.2 / (12 X 12) = 11.03 SQ.FT.
NOTE: TREMOR = 1176707 mm² / 1823.9 SQ IN

MIRROR SHADED AREA EQUALS
(42458 X 2) mm² / (25.4 X 25.4) = 131.6 SQ.IN.
131.6 / (12 X 12) = 0.91 SQ.FT.

TOTAL SHADED AREA EQUALS
1109530 mm² / (25.4 X 25.4) = 1719.8 SQ.IN.
1719.8 / (12 X 12) = 11.94 SQ.FT.
NOTE: TREMOR = 1261623 mm² / 1955.5 SQ IN

NOTES — [ ] DIMENSIONS ARE INCHES.

RANGER
SEAT TRACK & H-POINT DATA



MULTI-WAY SEATS

SEAT TRAVEL DATA										
Seat Model	Seat Dimensions								SgRP Location	
	A	B	C	D	E	F	G	H	X	Y
4-Way Seat	280.2 [11.03]	26.2 [1.03]	311.5 [12.26]	309.8 [12.20]	88.7 [3.49]	342.7 [13.49]	250 [9.84]	248.2 [9.77]	294.3 [11.59]	279.3 [11.00]
8-Way Seat	281.4 [11.08]	24.5 [0.96]	311.2 [12.25]	309.4 [12.18]	87.1 [3.43]	343.9 [13.54]	249.6 [9.83]	247.9 [9.76]	294.3 [11.59]	279.3 [11.00]
Seat Track Angle To Top Of Frame = 4.5°										

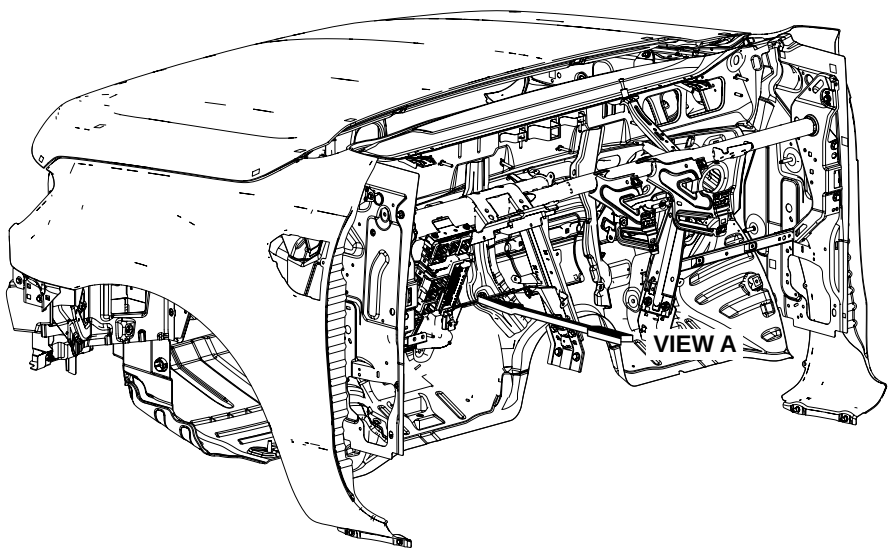
NOTES — [ ] DIMENSIONS ARE INCHES.

RANGER
CHMSL CIRCUIT

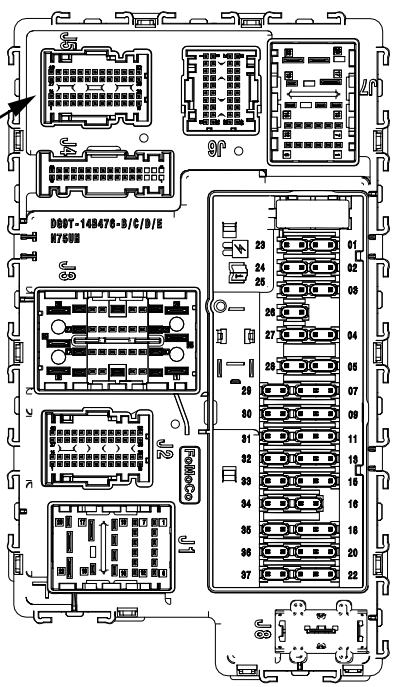
When Equipment is mounted that blocks the factory CHMSL, An auxiliary CHMSL must be fitted.

Trim Level	Circuit Type	Max Current (1) (3)	Factory CHMSL Load (3)	Circuit Reserve Capacity with Factory CHMSL (2)
XL/XLT	PWM	1.70A	1.06A	0.64A
Lariat	Non-PWM	1.70A	0.20A	1.50A

Notes:
(1) - The Maximum current load for the circuit must not be exceeded
(2) - If auxiliary CHMSL exceeds the reserve capacity, the factory CHMSL must be disconnected.
(3) - Continuous at 12V

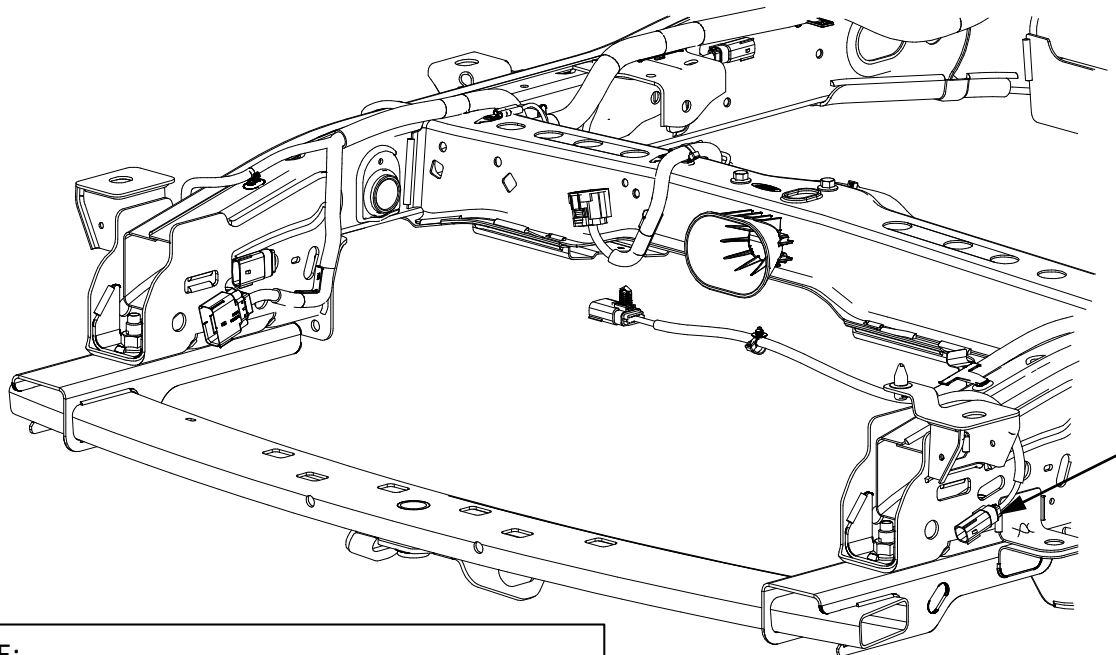


CHMSL CIRCUIT
BCM (LH UNDER DASH)
CONNECTOR 5, PIN 13
WIRE COLOR : YE/GY



VIEW A

RANGER
ELECTRICAL WIRING
BOX REMOVAL TAIL LAMPS



Pickup Tail Lamp Pin Out (without BLIS) Vehicle Connector: 6 way Male - Molex 33542-0601 Mating Connector: 6 way Female - Molex 33492-0601				
Function (2)	Pin #	Wire Color	Circuit Type (2)	Max Current (4)
Reverse	4	GN / BN	PWM (3)	3.9 A (1)
Park	3	RH: WH / OG LH: VT / GN	PWM (3)	0.52 A
Turn	5	RH: GN / OG LH: GY / OG	PWM (3)	2.2 A
Stop	2	VT / BN	PWM (3)	2.8 A
Ground	1	BK	N/A	6.8 A

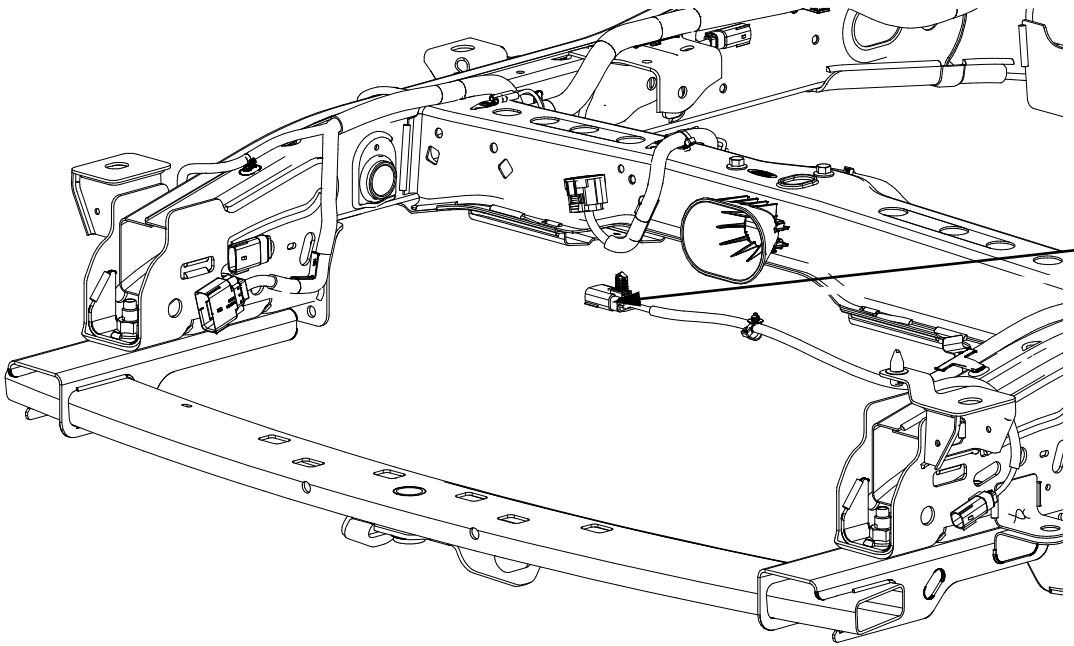
NOTE:
When the Pickup Box and Tail Lamps are removed on vehicles with Blind Spot Information System (BLIS), the BLIS and Cross Traffic Alert (CTA) features will be disabled. The vehicle can be re-configured with the Ford Diagnosis and Repair System (FDRS) tool to deactivate these features and avoid warning messages in the instrument cluster.

Pickup Tail Lamp Pin Out (with BLIS) Vehicle Connector: 16 way Male - Molex 33542-1601 Mating Connector: 16 way Female - Molex 33492-1601				
Function (2)	Pin #	Wire Color	Circuit Type (2)	Max Current (4)
Reverse	5	GN / BN	XL & XLT: PWM (3) Lariat: DC	3.9 A (1)
Park	3	RH: WH / OG LH: VT / GN	XL & XLT: PWM (3) Lariat: DC	0.52 A
Turn	4	RH: GN / OG LH: GY / OG	XL & XLT: PWM (3) Lariat: DC	2.2 A
Turn Out	6	RH: BU / OG LH: GN / BU	N/A	N/A
Stop	2	VT / BN	XL & XLT: PWM (3) Lariat: DC	2.8 A
Ground	1	BK	N/A	6.8 A

Notes for Tables

(1) Combined load for RH and LH Lamps
(2) Circuits are not re-configurable
(3) Incandescent bulbs are recommended
(4) Continuous at 12V

RANGER
ELECTRICAL WIRING
BOX AND TAILGATE REMOVAL - POWER LOCKS



Chassis Wiring Pin Out for Tailgate
(Power Lock Function Shown)
12 way - Molex 33542-1201
Mating: Molex 33492-1301

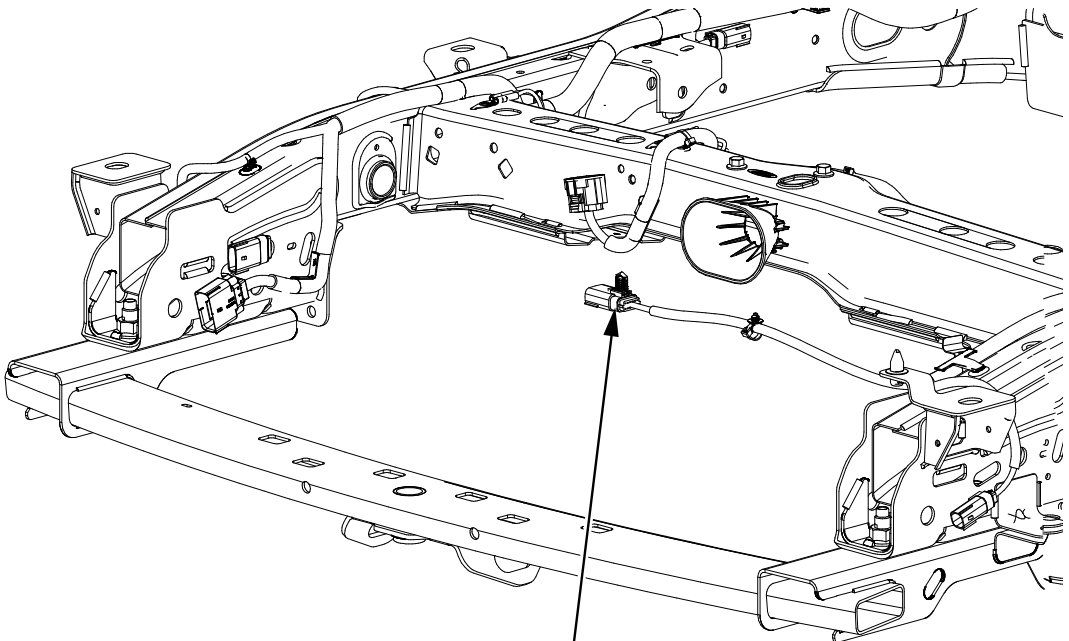
Function	Pin #	Wire Color	Max Current
Lock	12	GY / BN	4 A (1)
Unlock	5	BN / GN	4 A (1)

This connector must not be left unplugged.
Note (1): The 20 Amp fused vehicle lock / unlock circuit is shared between the Tailgate and Side Door locks: the Tailgate apportionment is 4 Amps. A 5 Amp inrush current for 5 ms is permissible.

During Lock event, lock circuit is at ba ery voltage, unlock circuit is tied to ground. The opposite occurs during unlock event.The Lock / Unlock pulse duration is 110 ms.

For Ranger Pickup trucks where the Box or Tailgate will be removed, The power locking tailgate circuit (if equipped) may be used for a similar function with any installed quipment (second unit body,cap, tool boxes, etc)

RANGER
ELECTRICAL WIRING
BOX AND TAILGATE REMOVAL REAR VIEW CAMERA



Chassis Wiring Pin Out for Tailgate (Rear View Camera Functions Shown) 12 Way Male Molex 33542-1201		
Function	Pin #	Wire Color
V+ Bat	6	BN / YE
Lin Bus	4	VT / WH
Video -	2	BU / GY
Video +	1	WH / GN
Ground	3	BK

Female Mate: Molex 33492-1301
(Ford Pigtail Kit: AU2Z-14S411-AMB)
All Open Cavi es must be plugged
This connector must not be le unplugged

For Ranger Pickup trucks, the rear view camera is contained within the tailgate handle. If the Tailgate or Pickup Box is removed from the vehicle, another camera will need to be installed to continue compliance to FMVSS 111. A Rear View Camera Kit may be ordered from your Ford Dealer (part number JC3Z-19G490-D) for this purpose. The kit includes a camera, camera mounting hardware and 20' wiring harness. Camera placement locations for this kit are recommended on page 21, however the vehicle alterer is responsible for cer fication to the rear view camera portion of FMVSS 111.

NOTES:

- The wiring harness included in the Rear View Camera Kit has a 6 pin inline connector that is not compatible with the 12 pin connector on the vehicle. A couple of op ons are available:
  - The existing tailgate harness may be reused or a new one may be ordered from your Ford Dealer (part number KB3Z-14A412-B) and used in place of the wiring provided in the kit.
  - The wiring in the Camera Kit can be made compatible with the vehicle by replacing the 6 pin inline connector with a 12 pin (Pigtail Kit #AU2Z-14S411-AMB). A shield is used to minimize noise in the video circuits, therefore it is not recommended that the harness from the kit be shortened. When replacing the 6 pin connector, it is recommended that the wires are clipped as close to the 6 pin connector as possible to maintain the integrity of the shield. Follow the recommended, approved splice procedure provided in the pigtail kit for each circuit spliced. The pigtail connector will not remain sealed if any circuits are removed.
- It is not recommended to reuse the camera provided in the tailgate for moun ng anywhere else on the vehicle. The guidance overlay (i.e. lines showing the vehicle path and Red/Yellow/Green proximity zones) will not be accurate for the new loca on and cannot be turned off. The camera provided in the Rear View Camera Kit does not have guidance overlay to avoid this issue.

RANGER
ELECTRICAL WIRING
REAR VIEW CAMERA PLACEMENT FOR BOX REMOVAL

Ford Rear View Camera Compliance Capability:
Ford has tested the available rear view cameras in combination with the available displays and found all pairings capable of meeting the rear view camera portion of FMVSS 111 requirement when mounted within the zones defined in below. Actual certification to the rear view camera portion of FMVSS 111 is the responsibility of the subsequent stage manufacturer (box delete) or vehicle alterer (box or tailgate removal).

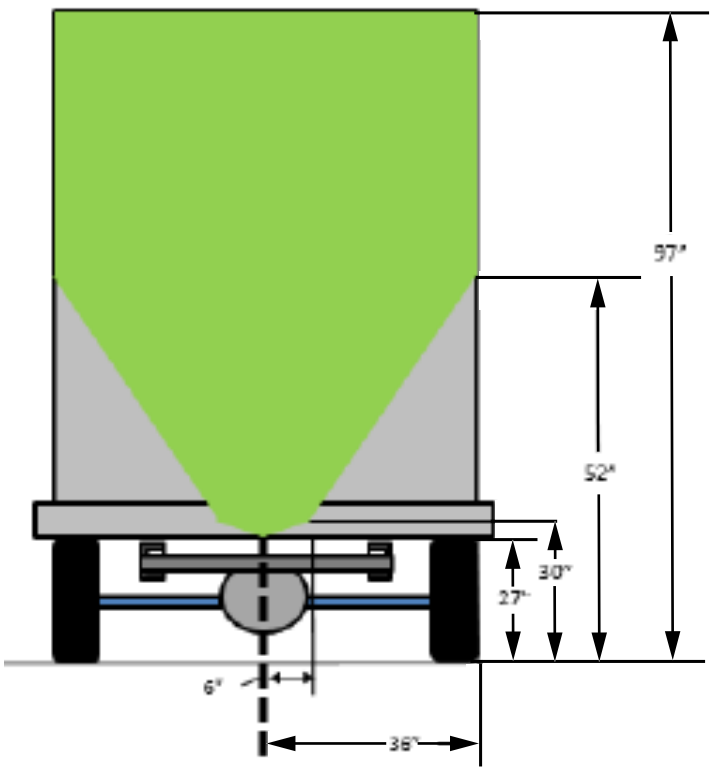
Applicable Equipment:

- Equipment provided in Rear View Camera Kit (part number JC3Z-19G490-D) when used on Pickups where the tailgate or pickup box is removed.

Applicable Vehicle Displays:

- 4.2” Center Stack
- 8” Center Stack

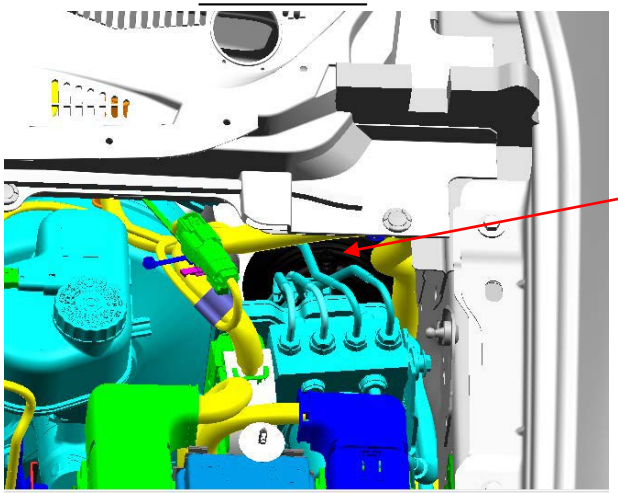
Compatible Rear View Camera Locations



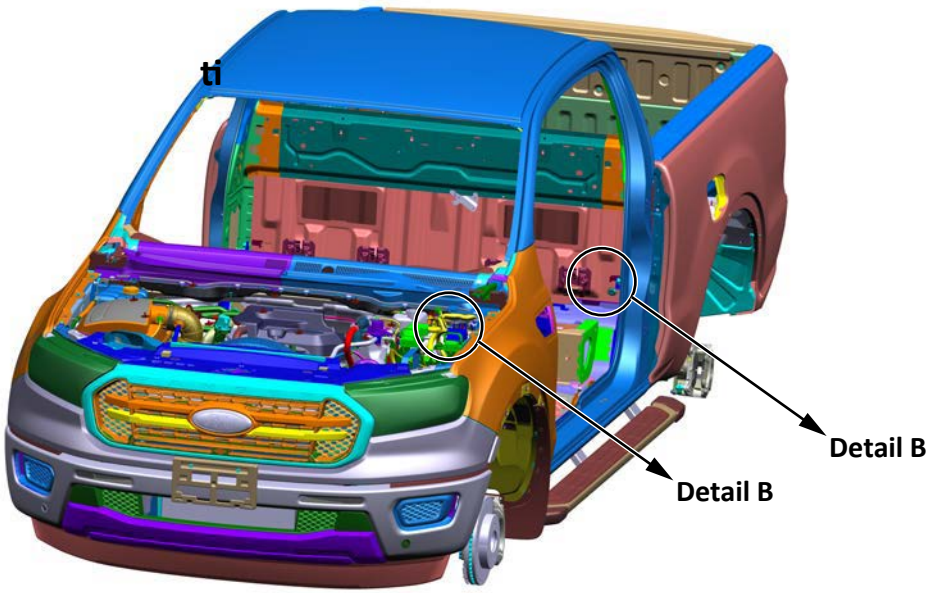
Note that the NTEA has provided detailed information and educational resources to help members better understand the new FMVSS 111/reverse camera conformity (including a manual and test kit). Ref. http://www.ntea.com/fmvss111rearvisibility

RANGER
ELECTRICAL WIRING
WIRING PASS THROUGH LOCATIONS

Dash Panel

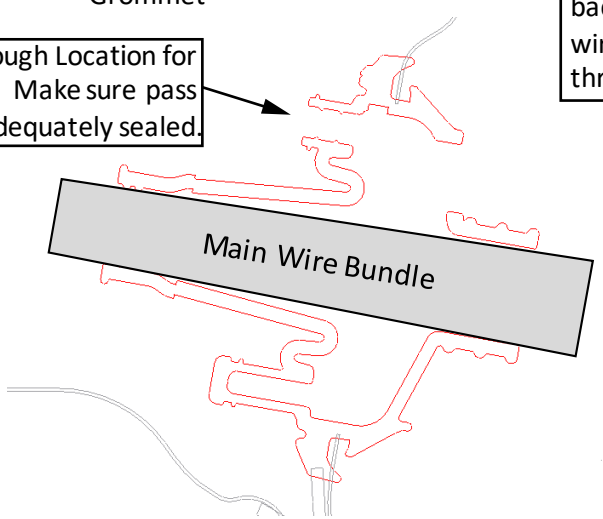


Detail A



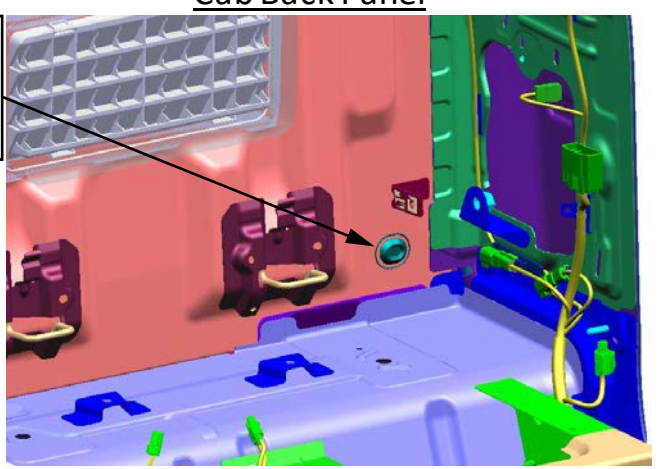
Section Through Main Wiring Grommet

Pass Through Location for Additional Wiring. Make sure pass through is adequately sealed.



Cab Back Panel

Grommet at bottom left corner of back panel can be slit and used for wire pass through. Make sure pass through is adequately sealed.



Detail B
(View rotated for better visibility)

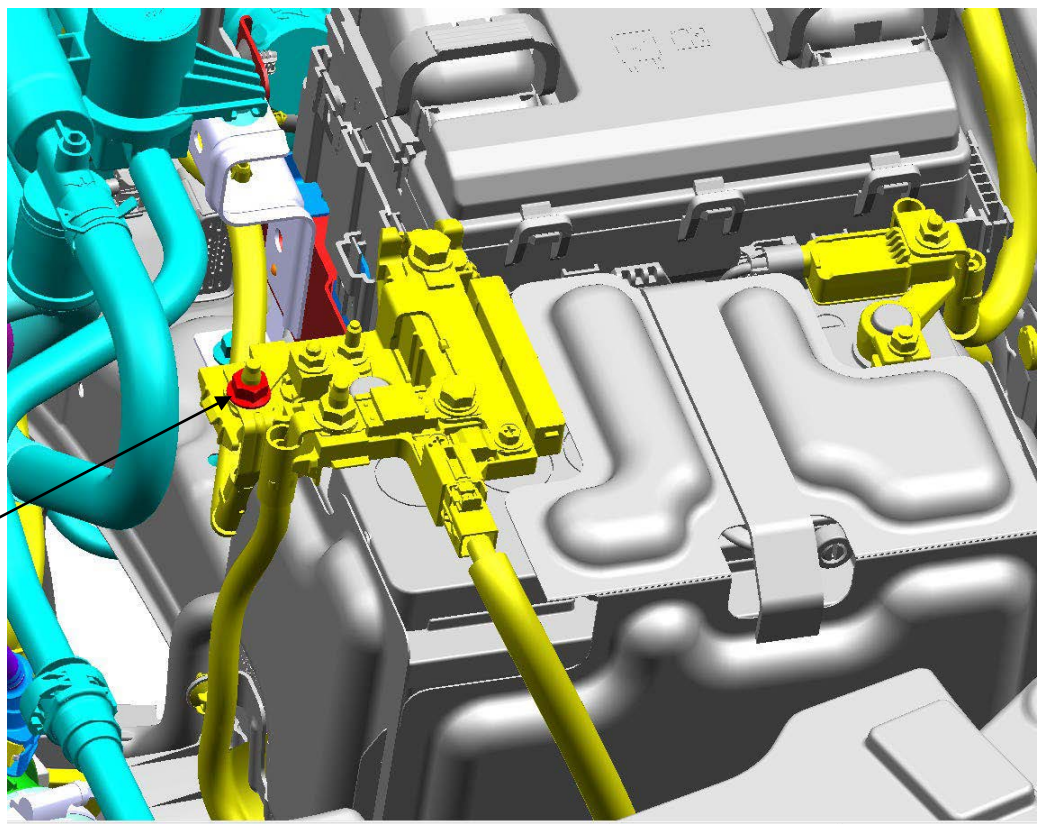
B+ (Hot at All Times)

Any added circuits must be appropriately fused and connected to the positive battery terminal in the location shown.

- The maximum thickness of additional terminal(s) being installed is 2.0mm.
- Reuse the existing nut and torque to 13.5 +/- 2.1 Nm.

Circuit Grounding

Ground wires for added circuits must not be connected directly to the battery nor to any existing vehicle grounding points. A new ground location(s) must be established.



Location for B+ connection

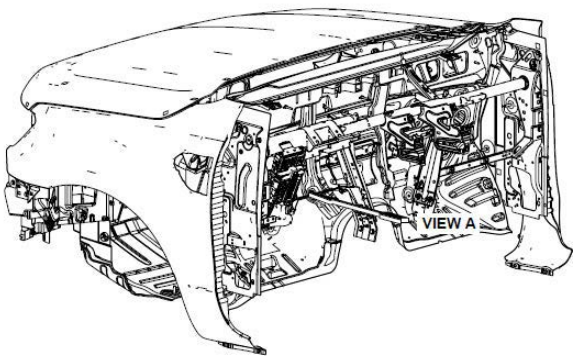
NOTE: Do not connect any terminals or other hardware to the battery B+ terminal that could compromise clearance to the hood inner panel.

RANGER
ELECTRICAL WIRING
ADDED CIRCUITS, CON'T

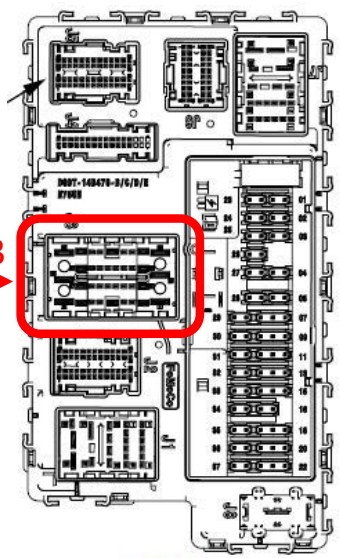
Delayed Accessory

When installing auxiliary equipment that is active with delayed accessory, a relay connected to B+ must be installed. That relay can then be driven by a delayed accessory feed from the BCM. Install a female terminal kit (DU2Z-14474-DA) into the open location in BCM Connector 3, Pin 30. The terminal kit should then be connected to a 2 or 3 Amp inline fuse before connection to the relay input (can install a s witch between the fuse and rel ay). This BCM output shares BCM fuse #23 with another circuit, the added in line fuse prevents issues in the new circuit from blowing the BCM fuse and affecting other electrical features in the vehicle.

Note: BCM Connector 3 has a black plastic cover that will need to be temporarily removed to install the terminal kit(s)



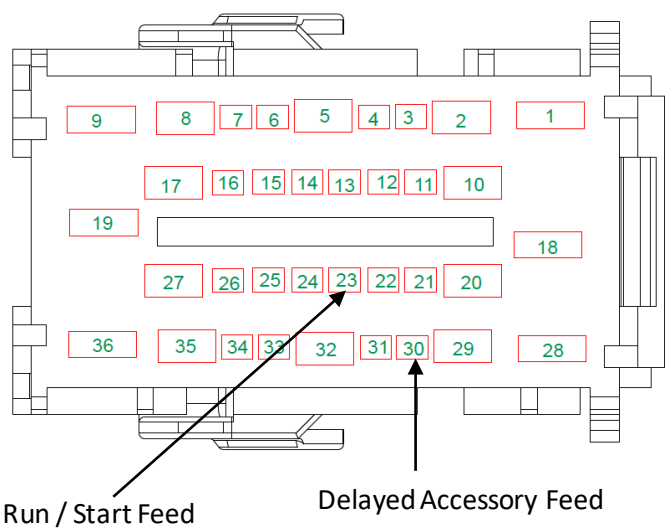
BCM Front View



Run / Start

When installing auxiliary equipment that is active with Run / Start condition, a relay connected to B+ must be installed. That relay can then be driven by a run / start feed from the BCM. Install a female terminal kit (DU2Z-14474-DA) into the open location in BCM Connector 3, Pin 23. The terminal kit should then be connected to the relay input (can install a switch between the fuse and relay). This circuit is protected by BCM fuse #22.

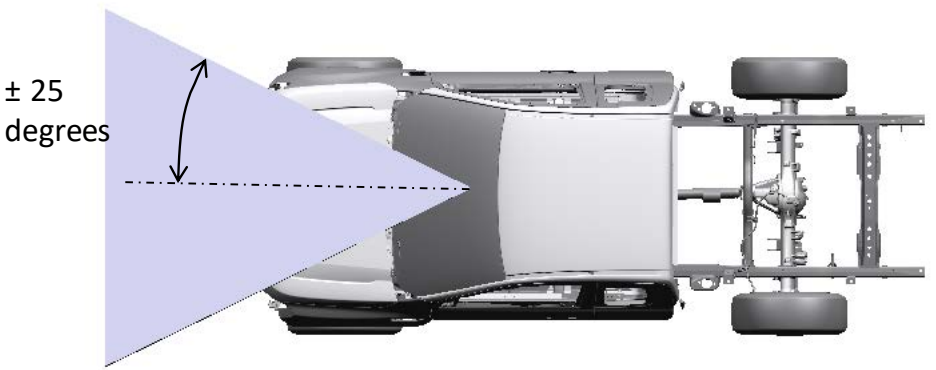
View of Front Face of BCM Connector 3

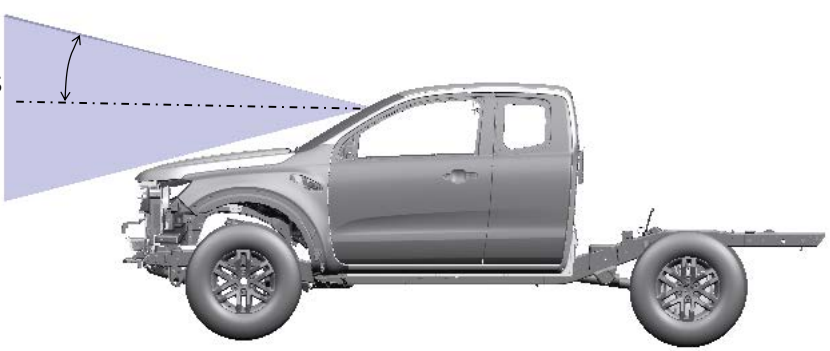


RANGER
ELECTRICAL ADAS FEATURES
RADAR AND CAMERA KEEP OUT ZONES

Installed equipment should not infringe on the radar or camera view zones. The following CAD files are available upon request via the Ford BBAS system (www.fordbbas.com/contactus).

→ Camera Zone CAD File: FNA7396533
→ Radar Zone CAD File: FNA7396672





Radar Zone

Camera Zone

CHANGE CONTROL INDEX

LTRS	REVISIONS		
ORIGINATOR	CHECKER	ENGR APP	MATL APP
			INITIAL RELEASE
CHMB34-000000-BBLB-AA-01-FNA-ECN/1 RELEASED			20200608
KVINOTH4	RWAGNE43	PHEIRTZL	--
CHMB34-000000-BBLB-AA-01-FNA-ECN/2 REVISED TO REMOVE “BOX DELETE” SPECIFIC INFORMATION AND REFERENCES AS THE RANGER BOX DELETE MODEL IS NO LONGER AVAILABLE FOR THE 2021MY PUBLISHED			20200924
KVINOTH4	RWAGNE43	PHEIRTZL	--
CHMB34-000000-BBLB-AA-01-FNA-ECN/3 REVISED : SHEET 17 PUBLISHED			20201204
KVINOTH4	RWAGNE43	PHEIRTZL	--